

nfstc

National Forensic Science Technology Center

SCIENCE SERVING JUSTICE

Forensic Technologies Center of Excellence Overview

NIJ 2009 Grantees Meeting
Clearwater, FL
October 26-27, 2009

Presenter: Kevin Lothridge





FTCoE Partner Organizations



National Forensic Science Technology Center



Marshall University Forensic Science Center



National Clearinghouse for Science, Technology and the Law



National Center for Forensic Science



Midwest Forensics Resource Center

FTCoE Processes

- Organizations perform under Partner Agreements
- Partners submit regular project status updates
- Progress payments tied to project performance
- FTCoE Director conducts regular communication sessions

FTCoE Projects

- DNA Laboratory Audit / Grant Progress Assessment Program
- Science, Technology, and the Law Online Resource
- Conversion of NIJ Publications to Mobile Media
- Process Mapping Tools and Methods
- Recruiting, Selection, and Retention Study for Laboratory Staff
- DNA Grantees Summit
- Applied Technology Conference

FTCoE Projects

- Technical Working Groups
 - General Forensics TWG
 - DNA Forensic TWG
- Technology Adoption Activities
 - Technology Transfer Workshops
 - Technology Evaluations
 - Technology Exhibitions
- Expert System Testbed Project (NEST)
- National Y-STR Database



DNA Audits & Grant Progress Assessments

Sites Audited	Month	# Sites	# Assessors	# Assessor Days	# GPA Reports	# DNA Reports	Total # Reports
Vendor Labs	Jan & Feb	6	27	59	7	6	13
17 States* and Washington DC	Mar-Sept.	71	134	388	154	30	184
Houston PD	Sept	1	2	4	0	1	1
Palm Beach County SO	Sept	1	3	6	0	1	1
Oklahoma City PD	Sept	1	2	4	0	1	1
TOTAL		80	168	461	161	39	200

* Ohio, Arizona, Arkansas, Delaware, New Mexico, Kentucky, Massachusetts, North Carolina, Connecticut, Georgia, New Hampshire, Colorado, Kansas, North Dakota, Utah, Idaho, Alaska

Stats for DNA Audit / GPA Assessment Program For the Period: January - September, 2009

Technology Transition Workshops

2009 Workshops Completed:

- DART Mass Spectrometer for Forensic Analysis
- Miniaturized Microfluidic Devices
- Field Investigator Drug Officer (FIDO) Workshop
- Latent Print Enhancement
- MinElute Post PCR Cleanup

2009 Workshop Scheduled

- Use of SNPs for Identification, November 2-4, 2009 at UNT

Workshops can be viewed at projects.nfstc.org

NIJ Expert Systems Testbed Project

- Comparison study on single source samples to evaluate time expended on data analysis using three commercially available expert systems
- Conducted an efficiency study comparing GeneMapper ID in expert systems mode v. manual mode (single source)
- Comparison of GeneMapper IDX with GeneMapper ID to evaluate performance and functions
- Evaluation of expert systems analysis of data generated from degraded DNA samples
- Threshold Study being conducted using Applied Biosystems' GeneMapper® *ID – X* (GMIDX)

Program Highlights

	Q309	YTD 2009 Only*	Total All Years*
Records Entered	5048	12,841	88,857
Searches Performed	3668	14,417	86,470
Visits	34,218	72,554	246,273
Unique Visits	17,719**	41,000**	cannot be calculated
New Registrations***	209	569	3823****

* Visit history does not include statistics for the month of April 2009, which were lost due to migration of the site from one place to another.

**Unique visit statistics are approximate for time periods beyond one month.

***Registration not required to use the site.

****Total includes only active registrants.

National Center for Forensic Science **US Y-STR Database**

- USY-STR Database v2.1 released July 1, 2009 contains 17,864 haplotypes
- Database provides
 - Tools to obtain Y-STR haplotype frequencies with confidence intervals
 - Ability to simultaneously search multiple haplotypes directly from Genotyper and GeneMapper text files
 - Ability to include or exclude sampled populations, and a report-style printout
- Haplotypes are divided into five forensically-relevant ancestries: African American, Asian, Caucasian, Hispanic, and Native American
- To date, nearly **17,000 search queries** have been performed
- Site solicits for additional data upon successful completion of QC exercise, plan updates semi-annually
- Currently evaluating mixture interpretation / deconvolution tools for inclusion to the database

www.usystrdatabase.org and www.usystrdatabase.com are managed by NCFS in conjunction with the Y-STR Consortium



- **Process Mapping Tools and Methods Project Ongoing:**
 - FYo8 funding resulted in 9 new mapping projects including repeat visits to a number of labs where personnel were trained in this and prior years.
 - Development of recruiting, selection, and retention system for crime laboratory scientific staff:
 - Final report still in preparation
- **Remote peer verification:**
 - Report was issued
 - Successful demonstration between main and satellite labs in Missouri State Highway
- **Patrol system**
 - Cooperation of local IT is integral to successful deployment
- **Tech evaluation of multispectral tools for bloodstain searching and imaging:**
 - Report was issued
 - Evaluator is preparing a manuscript for publication in refereed journal
Both scene BPA and lab-based serology sections could use commercially available near- IR blood searching tools that are not currently on the market



Forensic Technologies Center of Excellence

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